



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-0483; Directorate Identifier 2014-NM-082-AD; Amendment 39-18012; AD 2014-22-07]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2013-16-08 for certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, and Model CL-600-2D24 (Regional Jet Series 900) airplanes. AD 2013-16-08 required inspection of the main landing gear (MLG) retraction actuator components; corrective actions if necessary; and, for certain retraction actuators, installation of a new jam nut. This new AD continues to require those actions. This AD was prompted by a determination that a certain part was incorrectly identified in a certain section of AD 2013-16-08. We are issuing this AD to prevent disconnection of the MLG retraction actuator, which could result in extension of the MLG without damping, and consequent structural damage and collapse of the MLG during landing.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of September 24, 2013 (78 FR 51055, August 20, 2013).

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0483>; or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

For Bombardier service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>.

For Goodrich service information identified in this AD, contact Goodrich Corporation, Landing Gear, 1400 South Service Road, West Oakville L6L 5Y7, Ontario, Canada; telephone 905-825-1568; email [jean.breed@goodrich.com](mailto:jean.breed@goodrich.com); Internet <http://www.goodrich.com/TechPubs>.

You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7318; fax 516-794-5531.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013).

AD 2013-16-08 applied to certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, and Model CL-600-2D24 (Regional Jet Series 900) airplanes. The NPRM published in the Federal Register on July 25, 2014 (79 FR 43322). The NPRM was prompted by a determination that a certain part was incorrectly identified in a certain section of AD 2013-16-08.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2011-36R1, dated October 3, 2012 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, and Model CL-600-2D24 (Regional Jet Series 900) airplanes. The MCAI states:

Corrosion of the main landing gear (MLG) retraction actuator components was found in-service, either at the interface of the rod end and the piston or at the bracket and its related pins. This can cause the MLG retraction actuator to disconnect, leading to an MLG extension without damping, and a potential for MLG structural damage and possible collapse during landing.

This [Canadian] AD mandates the inspection and rectification [corrective action] of the MLG retraction actuator components.

This revision is to mandate [, for certain MLG retraction actuators,] the installation of the new retraction actuator jam nut. This revision also corrects the background information and updates Service Bulletin (SB) references.

You may examine the MCAI in the AD docket on the Internet at

<http://www.regulations.gov/#!documentDetail;D=FAA-2014-0483-0002>.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (79 FR 43322, July 25, 2014) or on the determination of the cost to the public.

## **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting this AD as proposed, except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 43322, July 25, 2014) for correcting the unsafe condition; and

- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 43322, July 25, 2014).

### **Costs of Compliance**

We estimate that this AD affects 391 airplanes of U.S. registry.

The actions required by AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), and retained in this AD take up to 16 work-hours per product, at an average labor rate of \$85 per work-hour. Required parts cost about \$1,018 per product. Based on these figures, the estimated cost of the actions that are required by AD 2013-16-08 is \$2,378 per product.

The new requirements of this AD add no additional economic burden.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0483>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any

comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), and adding the following new AD:

**2014-22-07:** Amendment 39-18012. Docket No. FAA-2014-0483; Directorate Identifier 2014-NM-082-AD.

#### **(a) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013).

**(c) Applicability**

This AD applies to the airplanes specified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers 10002 and subsequent.

(2) Bombardier, Inc. Model CL-600-2D15 (Regional Jet Series 705) and CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing Gear.

**(e) Reason**

This AD was prompted by a report of corrosion of the components of the main landing gear (MLG) retraction actuator found in service; the corrosion was found at the interface of the rod end and the piston, and at the bracket and related pins. We are issuing this AD to prevent disconnection of the MLG retraction actuator, which could result in extension of the MLG without damping, and consequent structural damage and collapse of the MLG during landing.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Retained Inspection of the MLG Retraction Actuator and Corrective Actions with No Changes**

This paragraph restates the requirements of paragraph (g) of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), with no changes. For any



airplane with an MLG retraction actuator assembly having any part number and serial number identified in paragraph 1.A., Effectivity, of Bombardier Service Bulletin 670BA-32-031, Revision C, dated April 17, 2012, except airplanes on which modification status “32-64” is marked on the identification plate: At the applicable time specified in paragraph (g)(1) or (g)(2) of this AD, perform a detailed inspection of the retraction actuator assembly for evidence of corrosion and security of the jam nut, as applicable, in accordance with Part A of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-32-031, Revision C, dated April 17, 2012; and Goodrich Service Bulletin 49600-32-63 R1, dated May 17, 2011. If any corrosion or unsecured jam nut is found, before further flight, replace the retract actuator with a new or serviceable retract actuator; and install the retract actuator, in accordance with Part A of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-32-031, Revision C, dated April 17, 2012. Repeat the inspection thereafter at intervals not to exceed 1,200 flight hours or 12 months, whichever occurs first.

(1) For MLG retraction actuator assemblies on which, as of September 24, 2013 (the effective date of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013)), 8,000 or more total flight hours have accumulated since new or since overhaul, or that have been in service for more than 4 years since new or since overhaul: Inspect within 1,200 flight hours or 12 months after September 24, 2013, whichever occurs first.

(2) For MLG retraction actuator assemblies on which, as of September 24, 2013 (the effective date of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013)), less than 8,000 total flight hours have accumulated since new or since overhaul,

and that have been in service for 4 years or less since new or since overhaul: Inspect before the accumulation of 9,200 total flight hours on the MLG retraction actuator assembly since new or since overhaul or within 5 years in service since new or since overhaul, whichever occurs first.

**(h) Retained Inspection of MLG Retraction Actuator Bracket and Related Pins, and Corrective Actions with No Changes**

This paragraph restates the requirements of paragraph (h) of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), with no changes. For any airplane with an MLG dressed shock strut having any part number and serial number identified in paragraph 1.A., Effectivity, of Bombardier Service Bulletin 670BA-32-033, Revision B, dated June 26, 2012: Within 4,400 flight hours or 24 months after September 24, 2013 (the effective date of AD 2013-16-08), whichever occurs first, perform a detailed inspection of the retract actuator bracket assembly, associated pins, and the mating lugs on the outer cylinder for evidence of corrosion, in accordance with Bombardier Service Bulletin 670BA-32-033, Revision B, dated June 26, 2012; and Goodrich Service Bulletin 49000-32-46 R2, dated November 11, 2011. Do all applicable corrective actions before further flight (i.e., replace retract actuator bracket assembly and pins, or outer cylinder lugs, as applicable).

**(i) Retained Installation of New Jam Nut with No Changes**

This paragraph restates the requirements of paragraph (i) of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), with no changes. For any airplane with an MLG retraction actuator assembly having any part number and serial number identified in paragraph 1.A., Effectivity, of Bombardier Service Bulletin

670BA-32-031, Revision C, dated April 17, 2012, except airplanes on which modification status “32-64” is marked on the identification plate: Within 20,000 flight hours or 10 years after September 24, 2013 (the effective date of AD 2013-16-08), whichever occurs first, install a new jam nut having part number 49606-5, in accordance with Part B of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-32-031, Revision C, dated April 17, 2012; and Goodrich Service Bulletin 49600-32-64 R3, dated December 15, 2011.

**(j) Retained Credit for Previous Actions with Change to Paragraph (j)(1)(iii) of this AD**

(1) This paragraph restates the credit provided by paragraph (j)(1) of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), with a change to the service information citation in paragraph (j)(1)(iii) of this AD. This paragraph provides credit for the actions required by paragraphs (g) and (i) of this AD, if those actions were performed before September 24, 2013 (the effective date of AD 2013-16-08), using the service information specified in paragraph (j)(1)(i), (j)(1)(ii), or (j)(1)(iii) of this AD, which is not incorporated by reference in this AD.

(i) Bombardier Service Bulletin 670BA-32-031, dated March 14, 2011.

(ii) Bombardier Service Bulletin 670BA-32-031, Revision A, dated June 9, 2011.

(iii) Bombardier Service Bulletin 670BA-32-031, Revision B, dated July 29, 2011.

(2) This paragraph restates the credit provided by paragraph (j)(2) of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), with no changes. This paragraph provides credit for the actions required by paragraph (h) of this

AD, if those actions were performed before September 24, 2013 (the effective date of AD 2013-16-08), using the service information specified in paragraph (j)(2)(i) or (j)(2)(ii) of this AD, which is not incorporated by reference in this AD.

(i) Bombardier Service Bulletin 670BA-32-033, dated March 14, 2011.

(ii) Bombardier Service Bulletin 670BA-32-033, Revision A, dated July 29, 2011.

**(k) Retained Parts Installation Limitations with Change to Paragraph (k)(2) of this AD**

(1) This paragraph restates the parts installation limitation specified in paragraph (k)(1) of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), with no changes. As of September 24, 2013 (the effective date of AD 2013-16-08), no person may install on any airplane an MLG retraction actuator assembly having any part number and serial number identified in paragraph 1.A., Effectivity, of Bombardier Service Bulletin 670BA-32-031, Revision C, dated April 17, 2012, unless that retraction actuator assembly has been inspected as specified in paragraph (g) of this AD, and all applicable corrective actions (i.e., replacement of the retract actuator) specified in paragraph (g) of this AD have been done. Repeat the inspection specified in paragraph (g) of this AD thereafter at the intervals specified in paragraph (g) of this AD.

(2) This paragraph restates the parts installation limitation specified in paragraph (k)(2) of AD 2013-16-08, Amendment 39-17546 (78 FR 51055, August 20, 2013), with a revised part name. As of the effective date of this AD, no person may install on any airplane an MLG dressed shock strut having any part number and serial number identified in paragraph 1.A., Effectivity, of Bombardier Service Bulletin 670BA-32-033, Revision B, dated June 26, 2012, unless that retraction actuator assembly

has been inspected and all applicable corrective actions have been done, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-32-033, Revision B, dated June 26, 2012.

**(I) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, Engine and Propeller Directorate, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2011-36R1, dated October 3, 2012, for related information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0483-0002>.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(4), (n)(5), and (n)(6) of this AD.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on September 24, 2013 (78 FR 51055, August 20, 2013).

(i) Bombardier Service Bulletin 670BA-32-031, Revision C, dated April 17, 2012.

(ii) Bombardier Service Bulletin 670BA-32-033, Revision B, dated June 26, 2012.

(iii) Goodrich Service Bulletin 49000-32-46 R2, dated November 11, 2011.

(iv) Goodrich Service Bulletin 49600-32-63 R1, dated May 17, 2011.

(v) Goodrich Service Bulletin 49600-32-64 R3, dated December 15, 2011.

(4) For Bombardier service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada;

telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com);  
Internet <http://www.bombardier.com>.

(5) For Goodrich service information identified in this AD, contact Goodrich Corporation, Landing Gear, 1400 South Service Road, West Oakville L6L 5Y7, Ontario, Canada; telephone 905-825-1568; email [jean.breed@goodrich.com](mailto:jean.breed@goodrich.com); Internet <http://www.goodrich.com/TechPubs>.

(6) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on October 28, 2014.

Jeffrey E. Duven,  
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Transport Airplane Directorate,  
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